

COMMENTARY ON: OLDER ADULTS (LONG-TERM CARE): SYSTEMATIC REVIEWS ON PREVENTION OF RESPIRATORY ILLNESS: A RAPID OVERVIEW OF REVIEWS

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This is a commentary on a rapid review commissioned by the Infection Prevention & Control, World Health Organization, Health Emergency Programme through funding from the Canadian Institutes of Health Research (CIHR) through the Strategy for Patient Oriented-Research (SPOR) Evidence Alliance and conducted by the Knowledge Translation Program, Li Ka Shing Knowledge Institute of St. Michael's Hospital, Unity Health Toronto. The full citation and acknowledgement of the researchers who conducted the rapid review are in the Reference section below.

Question

What is the best available evidence regarding infection prevention and control for adults aged 60 years and older in long term care settings, particularly respiratory viruses (including coronavirus and influenza)?

Rapid Review Findings

This rapid review included any measure used to prevent and/or control respiratory illnesses, including influenza and coronaviruses (e.g., COVID-19). Policies, physical interventions, organizational practices, equipment and supplies management, environmental impacts, monitoring and surveillance, travel restrictions and policies for management of the deceased were all considered. Interventions on vaccination or preventing bacterial respiratory outbreaks (e.g., strep, pneumonia, klebsiella) or aspiration pneumonia were excluded.

Reviews which reported lab-confirmed respiratory illness due to the virus (SARS, MERS, COVID-19, influenza), secondary bacterial infection, symptoms, secondary transmission (e.g., other patients, healthcare workers, visitors), goal concordant care, hospitalization, intensive-care unit (ICU) admission, and mortality were sought as part of this review. The authors scanned 3,309 articles for relevance and included six systematic reviews.

PREVENTION

- Three systematic reviews reported on interventions to prevent respiratory illness in long-term care facilities.
- There were mixed results for the effectiveness of hand hygiene to prevent infection (positive result n=2, non-significant result n=1).
- A meta-analysis found a moderate but not statistically significant effect favoring personal protective equipment (PPE) and no effect of social isolation for the prevention of infection.
- A systematic review reported that amantadine and amantadine plus PPE was effective in preventing the spread of viral respiratory infections in long-term care facilities.

MANAGEMENT

- All six systematic reviews reported on interventions to manage respiratory illness in long-term care facilities.
- Two reported amantadine was an effective antiviral chemoprophylactic agent for people with lab-confirmed influenza.
- Another reported that amantadine plus PPE was effective in preventing the spread of diagnosed lab-confirmed influenza.
- Two found no effect for rimantadine and neuraminidase inhibitors as chemoprophylactic agents; however, one low quality systematic review reported statistically significant antiviral chemoprophylaxis effects of rimantadine.
- Unclear results were found for zanamivir as an antiviral chemoprophylactic agent.

Overall, high quality evidence suggests the use of antiviral chemoprophylaxis with adamantine for residents, as well as adamantine in combination with personal protective equipment for prevention and management of influenza. For other strategies, there was either no evidence of effectiveness (e.g., social isolation) or mixed evidence of effectiveness (e.g., rimantadine, zanamivir, hand hygiene, PPE). The mixed evidence on hand hygiene and use of PPE does not imply these should not be used in outbreaks.

Characteristics of the Evidence

This evidence summary is based on a rapid literature review that included six systematic reviews published between 1999 and 2018 with included studies ranging from one to 37. Only two systematic reviews reported the number of participants (ranging from 140 to 908).¹

Risk of Bias (Quality of the Evidence)

Overall the quality of the available evidence is variable with three systematic reviews having low risk of bias (high quality), one with moderate risk of bias and two at high risk of bias (low quality).

Future Research Recommendations

- Current evidence suggests that antiviral chemoprophylaxis with adamantine is effective for the management of influenza in residents of long term-care facilities.
- High quality studies investigating other adjunct interventions with inconclusive evidence at present, e.g. (hand hygiene, PPE and social distancing) are required to provide evidence based recommendations for practice in long-term care facilities.

References

The intellectual property rights in data and results generated from the work reported in this document are held in joint ownership between the MAGIC team and the named Contributors:

1. Rios P, Radhakrishnan A, Thomas SM, Darvesh N, Straus SE, Tricco AC. Preventing respiratory illness in older adults aged 60 years and above living in long-term care: A rapid overview of reviews. medRxiv. 2020. Available from: <https://www.medrxiv.org/content/10.1101/2020.03.19.20039081v2>

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For details on the method for development see Munn Z, Lockwood C, Moola S. The development and use of evidence summaries for point of care information systems: A streamlined rapid review approach. *Worldviews Evid Based Nurs.* 2015;12(3):131-8.

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